

BEST AVAILABLE COPY

FIG. 1A-1

ATGGATTATCAGGTCAAGTCCAACTCTATGACATCAATTATACATCGGAGCCCTG
M D Y Q V S S P I Y D I N Y T S E P C 99

TAAATACATTCTAGGACTTATAAAAGATCACTTATTATGCACAGGGTGGAAACAG 239

CTATGAGGCAATTAAAACCTTATTGATGATAAAACAGTTGCATTCAATGGAGGGCAAC 179
39 59

TTCCCTCACTACAAACCTTCATGCTTGGCAAAAAGAGAGTTAATTCAATGTAGACAT 119
39

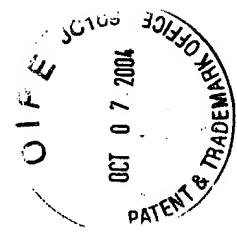
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19 (LOWER: SEQ ID NO.: 4)

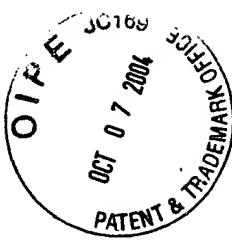
1/20

FIG. 1A

FIG. 1A-2

FIG. 1A-1





2/20

CAAAAAATCAAATGTCGAAGCAAATCGCAGCCCCCTCCGCTCTGCTCACTCACTGGTG 359
 Q K I N V K Q I A A R L L P P L Y S L V 119
 TTCATCTTGGTTGGCAACATGGCTGGTCAATCCTCATCCTGATAAACTGCAAAGG 419
 F I F G F V G N M L V I L I L I N C K R 139
 CTGAAAGGCAATGACTGACATCTAACCTGCTCAACCTGGCCATCTGACCTGTTTTCCT 479
 L K S M T D I Y L L A I S D L F F L 159
 CTTACTGTCCTCTGGCTCACTATGCTGCCGCCAGTGGACTTGGAAATAACAATG 539
 L T V P F W A H Y A A Q W D F G N T M 179
 TGTCAACTCTGACAGGGCTCTATTTATAGGCTTCTCTCTGGAAATCTTCTTCATCATC 599
 C Q L L T G L Y F I G F F S G I F F I I 199
 CTCTGACAAATCGATAAGGTACCTGGCTGCGTCCATGGCTGGTTTAAAGCCAGG 659
 L L T I D R Y L A V V H A V F A L K A R 219
 ACGGTACCTTGGGTGGTGAACAAGTGTGATCACTTGGGTGGCTGGTTGGTCT 719
 T V T F G V V T S V I T W V V A V F A S 239
 CTCAGGAATCATCTTACCAAGATCTCAAAAGAAGGTCTTCATTACACCTGCAGCTCT 779
 L P G I I F T R S Q K E G L H Y T C S S 259
 CATTTCCATACA
 H F P Y

FIG. 1A-2

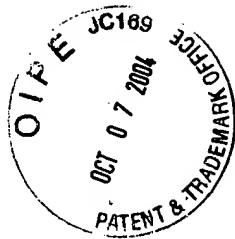


FIG. 1B

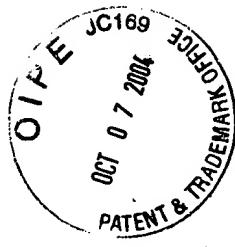
FIG. 1B-1

FIG. 1B-2

GAATTCCCCAACAGAGCCAAGCTCTCCATCTACTGAGCACAGGGAAAGCTAGGAGCAAAC 59 (UPPER: SEQ ID NO.: 2)
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CTATGAGCAATTAAACCTATTGATGTATAAACAGTTGATTCAATGAGACAT 39
TAAATACATTCTAGGACTTTATAAAAGATCACTTTTATTATGGCACAGGGTGGAAACAG 179
ATGGATTATCAAGTGTCAAGTCCAATCTATGACATCAATTATTATACATGGAGCCCTGC 239
M D Y Q V S S P I Y D I N Y T S E P C 299
99

FIG. 1B-1

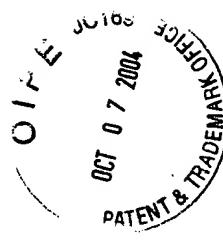
3/20



4/20

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Q K I N V K Q I A A R L L P P L Y S L V 119
TTCATCTTGGTTTGTGGCAACATGGCTCATCCTCATCCTGATAAAACTGCAAAGG 419
F I F G F V G N M L V I L I L I N C K R 139
CTGAAGAGCATGACTGACATCTACCTGCTCAACCTGGCCATCTGACCTGGTTTCCTT 479
L K S M T D I Y L L N L A I S D L F F L 159
CTTACTGTCCCTCTGGCTCACTATGCTGCCGCCAGTGGGACTTGGAAATAACATG 539
L T V P F W A H Y A A Q W D F G N T M 179
TGTCAACTCTGACAGGGCTCTATTATAGGCTTCTTCTGGAAATCTTCTTCATCATC 599
C Q L L T G L Y F I G F S G I F F I I 199
CTCCTGACAATCGATAAGGTACCTGGCTGTGTCGCCATGCTGTGCTTAAAGCCAGG 659
L L T I D R Y L A V V H A V F A L K A R 219
ACGGTCACCTTGGGTGGTACAAGTGTGATCACTTGGGTGGCTGTGCTTGGTCT 719
T V T F G V V T S V I T W V V A V F A S 239
CTCCCCAGGAATCATCTTACCAAGATCTCAAAAGAAAGGTCTCATTAACACCTGGCAGCTCT 779
L P G I I F T R S Q K E G L H Y T C S S 259
CATTTCCATACAGTCAGTATCAATTCTGGAAGGAATTTCAGACATTAAGAATAGTCATC 839
H F P Y S Q Y Q F W K N F Q T L K I V I 279

FIG. 1B-2



5/20

TTGGGGCTGGTCCCTGCCGCTGCTTGTATGGTCATCTGGTACTCGGAAATCCTAAAAACT 899
 L G L V L P L L V M V I C Y S G I L K T 299
 CTGGCTTCGGTGTCAAATGAGGAAGAAGGGCACAGGGCTGTGAGGCTTATCTTCACCATC 959
 L L R C R N E K K R H R A V R L I F T I 319
 ATGATTGGTTTATTTCCTCTGGCTCCCTACAAACATTGTCCTTCCTGAACACCTTC 1019
 M I V Y F L F W A P Y N I V L L N T F 339
 CAGGAATTCTTGGCTGAATAATTGCAAGTAGCTCTAACAGGTCTAGCTAGCAAGCTATGCAG 1079
 Q E F F G L N N C S S S N R L D Q A M Q 359
 GTGACAGAGACTCTGGATGACGGCACTGCTGCATCAACCCCATCATCTATGCCCTTGTCT 1139
 V T E T L G M T H C C I N P I I Y A F V 379
 GGGGAGAAGTTCAAGAAACTACCTCTTAGTCTTCTTCCAAAAGCACATTGCCAAACGCTC 1199
 G E K F R N Y L L V F F Q K H I A K R F 399
 TGCAAATGGCTGGTCTTATTCAGGAAGAGGCTCCGAGGGAGGAAGGCTCAGTTACACC 1259
 C K C C S I F Q Q E A P E R A S S V Y T 419
 CGATCCACTGGGAGCAGGAAATAATCTGGCTTGTGACACGGACTCAAGTGGCTGGT 1319
 R S T G E Q E I S V G L * 439
 GACCCAGTCAGAGTTGACATGGCTAGTTTACACACAGCCTGGCTGGGTNGG 1379
 TTGGNNAGGGCTTTTAAAGGAAGTTACTGTATAGAGGGCTAAGATTCCATT 1439
 TATTTGGCATTCTGTTAAAGTAGATTAGATCCGAATT 479

FIG. 1B-3

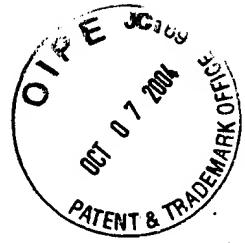
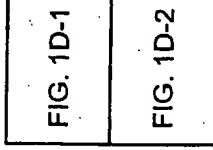


FIG. 1D



GAATTCCCCAACAGGCCAAGCTCTCCATCTAGGGACAGGGTAGCAGCAAACC
59 (UPPER: SEQ ID NO. 3)
19 (LOWER: SEQ ID NO. 6)

TTCCCTTCACTACAAACCTCATTGCTTGGCCAAAAAGAGAGTTAATCAATGTAGACAT 119
39

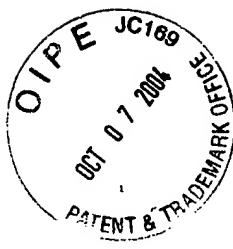
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59

TAATAACATTCTAGGACTTTATAAAAGATCACTTTTATTATGCACAGGGTGGAAACAAG 239
79

ATGGGATTATCAAGTGTCAAGTCCAATCTATGACATCAATTATACATCGGAGCCCTGCG
M D Y Q V S S P I Y D I N Y T S E P C 299
99

FIG. 1D-1

6/20



7/20

CAAAATAATGAAAGCAAATGGCAGCCCGCTCCTGGCTCTACTCACTGGTG
Q K I N V K Q I A A R L P P L Y S L V 119
359

TICATCTTGGTTTGTGGCAACATGGTCATCCTCATGATAACTGCAAAGG
F I F G F V G N M L V I L I N C K R 139
419

CTGAAGAGCATGACTGACATCTACCTGCTCAACCTGGCAATCTGACCTGTTTCCTT
L K S M T D I Y L L A I S D L F F L 159
479

CTTACTGCCCCCTTCTGGGCTCACTATGCTGCCGCCAGTGGGACCTTGGAAATAACATG
L T V P F W A H Y A A Q W D F G N T M 179
539

TGTCAACTCTGACAGGGCTTATTTATAGGCTTCTTCTCTGGAAATCTTCTCATCATC
C Q L L T G L Y F I G F F S G I F F I I 199
599

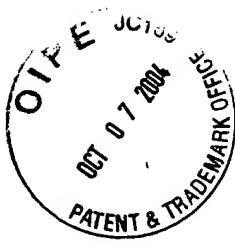
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L L T I D R Y L A V V H A V F A L K A R 219
659

ACGGTCACCTTGGGGTGGTGACAAGGTGTGATCACTGGGTGGCTGTGTTGGCT
T V T F G V V T S V I T W V V F A S 239
719

CTCCCAAGGAATCATCTTACAGATCTCAAAAGAGGTCTCATACACCTGCAGCTCT
L P G I I F T R S Q K E G L H Y T C S S 259
779

CATTTCCATACATAAAGATAAGTCATCTGGGGCTGGTCTGGCCGCTGCTTGTATGGT
H F P Y I K D S H L G A G P A A C H G 279
839

FIG. 1D-2



8/20

CATCTGCTACTCGGGATCCTAAAACCTCTGGTCTGGGTCTGAAATGAGAAGAGGCA	899
H L L G N P K N S A S V S K *	299
CAGGGCTGTGAGGCTATCTCACCATCATGATTGTTATTTCTCTGGGCTCCCTA	959
	319
CAACATTGCTTCTCCTGAAACACCTCCAGGAATTCTTCAGGAAATAATTGAGTAG	1019
	339
CTCTAACACGGTCAAGCTATGCAAGGTGACAGAGACTCTGGGATGACGGACTGCTG	1079
	359
CATCAACCCATCATCTATGCTTGTGGGAGAAGTTCAAGAAACTACCTCTTAGTCTT	1139
	379
CTTCACAAAGCACATGCCAACACGCTTCTGCAAATGCTCTATTTCAGCAAGAGGC	1199
	399
TCCCGAGGGAGCAAGCTCAGTTACACCCGATCCACTGGGAGGAGGAATAATCTGGG	1259
	419
CTTGTGACACGGACTCAAGTGGCTGGTGACCCAGTCAGAGTTGTGCACATGGCTTAGT	1319
	439
TTACACACAGCTGGCTGGGTNGTGGTGGNNAGGTCTTTAAAGGAAGTTACT	1379
	459
GTATAGAGGGCTAAGATTCAATCCATTATTGGCATCTGTTAAAGTAGATTAGATCC	1439
	479
GAATTTC	

FIG. 1D-3

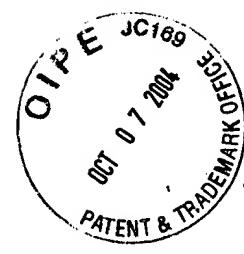


FIG. 2A

FIG. 2B

FIG. 2

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hCC-R2b	6	MLSTSRSSRFLRINTNESGEETTFFDYDYGAPCHKFDVQIGAQLLPPLYSLVFTIGFGVGNMLVWLLILNCRRLKSMTDIYLLNLAISDLFELIT	83
hCC-R3		MTTSIDFTVETFGTTSYDDVGLI[QEKADTRALMAQFWPPPLYSLVFTIGFGVGNMLVWLLILNCRRLKSMTDIYLLNLAISDLFELIT	95
hCC-R1		MEPTPNITEDDTTEFDI[GDATPCOKWNERAFGAQFLPPPLYSLVFTIGFGVGNMLVWLLILNCRRLKSMTDIYLLNLAISDLFELIT	87
hCC-R4		MNPTDIADTTIDESIYNNLYESIPIKPTKEGKRAFGELFLPPPLYSLVFTIGFGVGNMLVWLLILNCRRLKSMTDIYLLNLAISDLFELIT	87

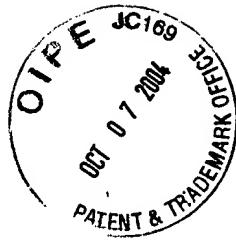
II

CCR5	hCC-R2b	hCC-R3	hCC-R1	hCC-R4	IV	III	II	I
VPFWAHYA[AQWDFGNMQLLTTGFIGFFSGIFFFILLTIDRYLAWHAVFALKARTVFGVVTTSVITIWVAVFAFASLPGIIFTRSQKEGH	VPFWAHYA[AQWDFGNMQLLTTGFIGFFSGIFFFILLTIDRYLAWHAVFALKARTVFGVVTTSVITIWVAVFAFASLPGIIFTRSQKEGH	VPFWAHYA[AQWDFGNMQLLTTGFIGFFSGIFFFILLTIDRYLAWHAVFALKARTVFGVVTTSVITIWVAVFAFASLPGIIFTRSQKEGH	VPFWAHYA[AQWDFGNMQLLTTGFIGFFSGIFFFILLTIDRYLAWHAVFALKARTVFGVVTTSVITIWVAVFAFASLPGIIFTRSQKEGH	VPFWAHYA[AQWDFGNMQLLTTGFIGFFSGIFFFILLTIDRYLAWHAVFALKARTVFGVVTTSVITIWVAVFAFASLPGIIFTRSQKEGH	177	177	177	177
LPFWAHSA[ANEWVEGNAMCKLIFTGLYHIGYEGGIFFFILLTIDRYLA[THAVFALKARTVFGVVTTSVITIWVAVFAFASLPGIIFTRSQKEGH	LPFWAHSA[ANEWVEGNAMCKLIFTGLYHIGYEGGIFFFILLTIDRYLA[THAVFALKARTVFGVVTTSVITIWVAVFAFASLPGIIFTRSQKEGH	LPFWAHSA[ANEWVEGNAMCKLIFTGLYHIGYEGGIFFFILLTIDRYLA[THAVFALKARTVFGVVTTSVITIWVAVFAFASLPGIIFTRSQKEGH	LPFWAHSA[ANEWVEGNAMCKLIFTGLYHIGYEGGIFFFILLTIDRYLA[THAVFALKARTVFGVVTTSVITIWVAVFAFASLPGIIFTRSQKEGH	LPFWAHSA[ANEWVEGNAMCKLIFTGLYHIGYEGGIFFFILLTIDRYLA[THAVFALKARTVFGVVTTSVITIWVAVFAFASLPGIIFTRSQKEGH	189	189	189	189
LPFWHYVRGHNWVFGHGMNLISGFVHTGGLISE[EFFILLTIDRYLA[THAVFAIRARTVFGVVTTSVITIWVAVFAFASLPGIIFTRSQKEGH	LPFWHYVRGHNWVFGHGMNLISGFVHTGGLISE[EFFILLTIDRYLA[THAVFAIRARTVFGVVTTSVITIWVAVFAFASLPGIIFTRSQKEGH	LPFWHYVRGHNWVFGHGMNLISGFVHTGGLISE[EFFILLTIDRYLA[THAVFAIRARTVFGVVTTSVITIWVAVFAFASLPGIIFTRSQKEGH	LPFWHYVRGHNWVFGHGMNLISGFVHTGGLISE[EFFILLTIDRYLA[THAVFAIRARTVFGVVTTSVITIWVAVFAFASLPGIIFTRSQKEGH	LPFWHYVRGHNWVFGHGMNLISGFVHTGGLISE[EFFILLTIDRYLA[THAVFAIRARTVFGVVTTSVITIWVAVFAFASLPGIIFTRSQKEGH	182	182	182	182
LPFWIDKLKDWDVFGDAMCKLISGFVHTGGLISE[EFFILLTIDRYLA[THAVFAIRARTVFGVVTTSVITIWVAVFAFASLPGIIFTRSQKEGH	LPFWIDKLKDWDVFGDAMCKLISGFVHTGGLISE[EFFILLTIDRYLA[THAVFAIRARTVFGVVTTSVITIWVAVFAFASLPGIIFTRSQKEGH	LPFWIDKLKDWDVFGDAMCKLISGFVHTGGLISE[EFFILLTIDRYLA[THAVFAIRARTVFGVVTTSVITIWVAVFAFASLPGIIFTRSQKEGH	LPFWIDKLKDWDVFGDAMCKLISGFVHTGGLISE[EFFILLTIDRYLA[THAVFAIRARTVFGVVTTSVITIWVAVFAFASLPGIIFTRSQKEGH	LPFWIDKLKDWDVFGDAMCKLISGFVHTGGLISE[EFFILLTIDRYLA[THAVFAIRARTVFGVVTTSVITIWVAVFAFASLPGIIFTRSQKEGH	182	182	182	182
LPFWGYA[ADQWVEGLGICQKMISWMLVGYSGIFFMMSLDRYLA[THAVFALKARTVFGVVTTSVITIWVAVFAFASLPGIIFTRSQKEGH	LPFWGYA[ADQWVEGLGICQKMISWMLVGYSGIFFMMSLDRYLA[THAVFALKARTVFGVVTTSVITIWVAVFAFASLPGIIFTRSQKEGH	LPFWGYA[ADQWVEGLGICQKMISWMLVGYSGIFFMMSLDRYLA[THAVFALKARTVFGVVTTSVITIWVAVFAFASLPGIIFTRSQKEGH	LPFWGYA[ADQWVEGLGICQKMISWMLVGYSGIFFMMSLDRYLA[THAVFALKARTVFGVVTTSVITIWVAVFAFASLPGIIFTRSQKEGH	LPFWGYA[ADQWVEGLGICQKMISWMLVGYSGIFFMMSLDRYLA[THAVFALKARTVFGVVTTSVITIWVAVFAFASLPGIIFTRSQKEGH	186	186	186	186

TV III

9/20

FIG. 2A



10/20

V

YTCSSHEFPIYSQYQFWKNEQTKIVLIGLVLPLLMVIVCYSGILKTLRCCRNEKKRRAVRLIFTIMIVYFLWAPNIVLILLNTQEFFGLNAC 272
 YMCGPYFPRG...WNNFHTIMRNLLGVLVPLIIVCYSGILKTLRCCRNEKKRRAVRLIFTIMIVYFLWTPNIVLILLNTQEFFGLSNC 280
 TICSAALYMPEDTVYSMRHETIRMTIFCLVLPLIVMACYGKTKLRLRPSKKK...YKAFLRFLIVMAYFLWTPNIVLILLNTQEFFGLQND 276
 HFTCSLHEPHESSREWKLIFQALKLNLFGLVPLLMVIVCYSGILKTLRCCRNEKKSKAVRLLIFTIMIVYFLWTPNIVLILLNTQEFFGLFTHEC 276
 TICCKTKYSLNSTTWWKVLSSLEINLGLVTPJGTMFLCYSMILRTRLQHOKNEKKNKAVKNTFLAVVVLFLGFWTPNIVLILLNTQEFFGLQDC 279

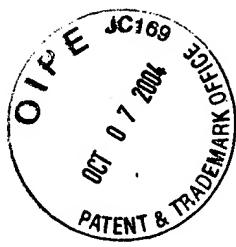
VI

VII

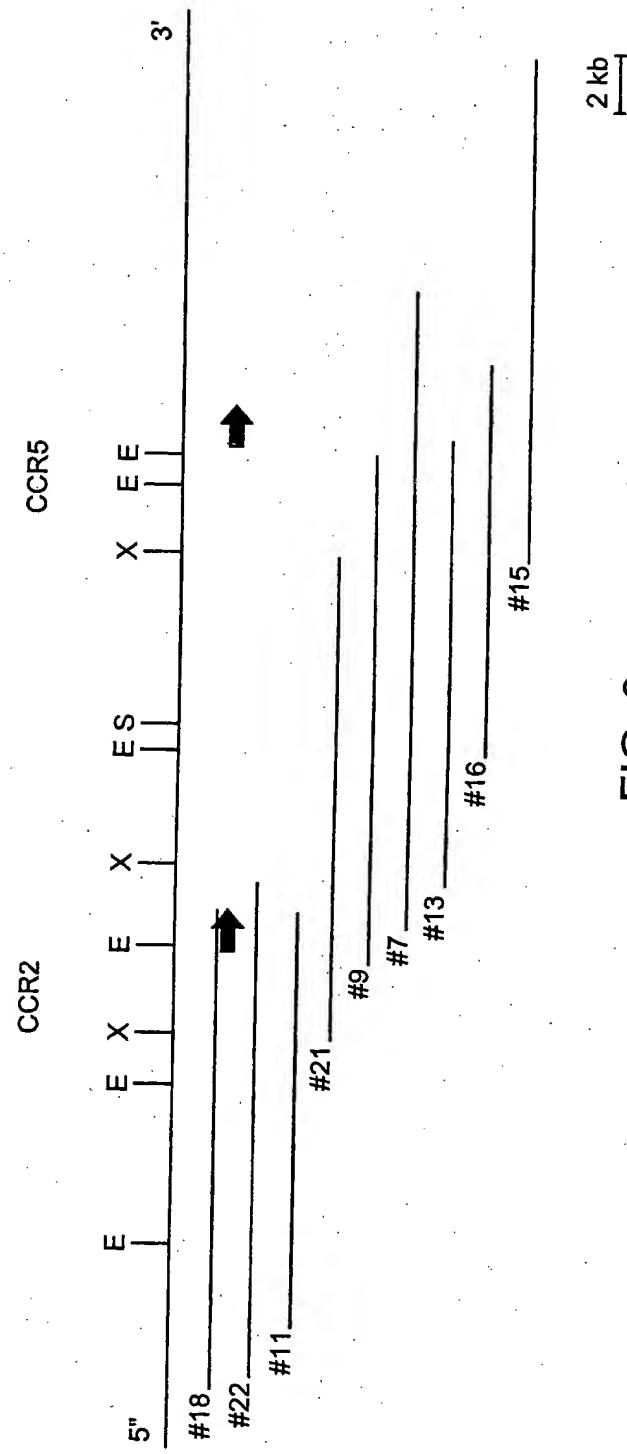
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 ESTSOLDQAMQVTETLGMTHCCINPIIYAFVGEKFRYLSVFRKHAKR, FCKQCPVYFREYDGVTSNTIPSTGEQEMSAQI 360
 ERSKHLIDLVMTTEVIAVSHCCMNPVIAFVGERFRKULRFFHHLIMH, IGRYIPFLPSKERLTSVYSPSTAEPELSIVF 355
 EQSRHLDIAVQTEVIAVTHCCVNPVIAFVGERFRKULRQFLHRRVAVH, IWKWLPELSVDRLERNSSSTSPSTGEHEISAGF 355
 TFERYLDVIAQATELAFVHCCINPIIYFLGEKFRNYTOLKTCRGLFVIVQYQGGLQYSAADTPSSSYTSTMDHLDHADL 360
 • •

CCR5
 hCC-R2b
 hCC-R3
 hCC-R1
 hCC-R4

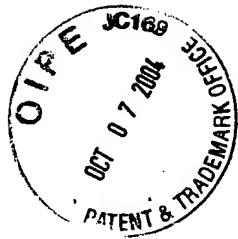
FIG. 2B



11/20



3
FIG.



12/20

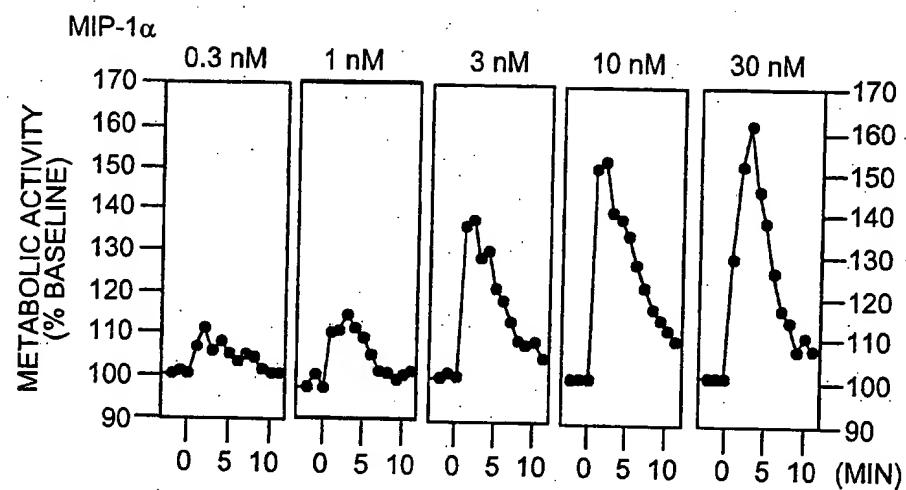


FIG. 4A

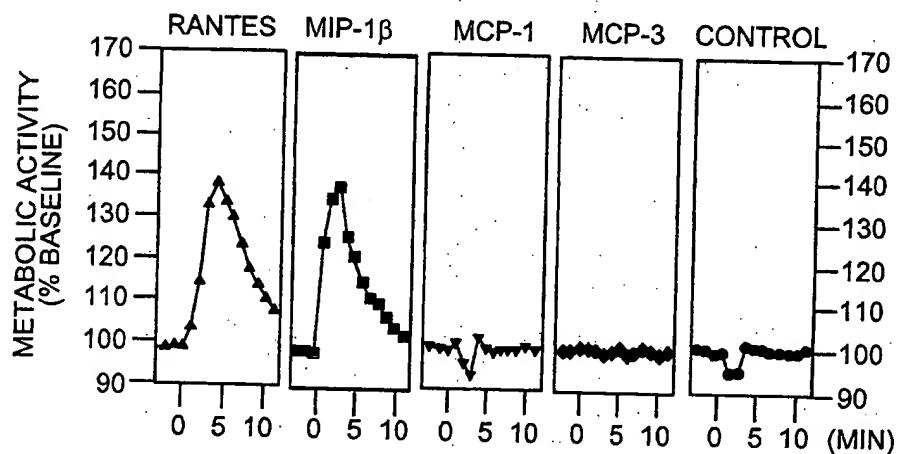
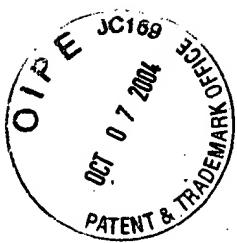


FIG. 4B



13/20

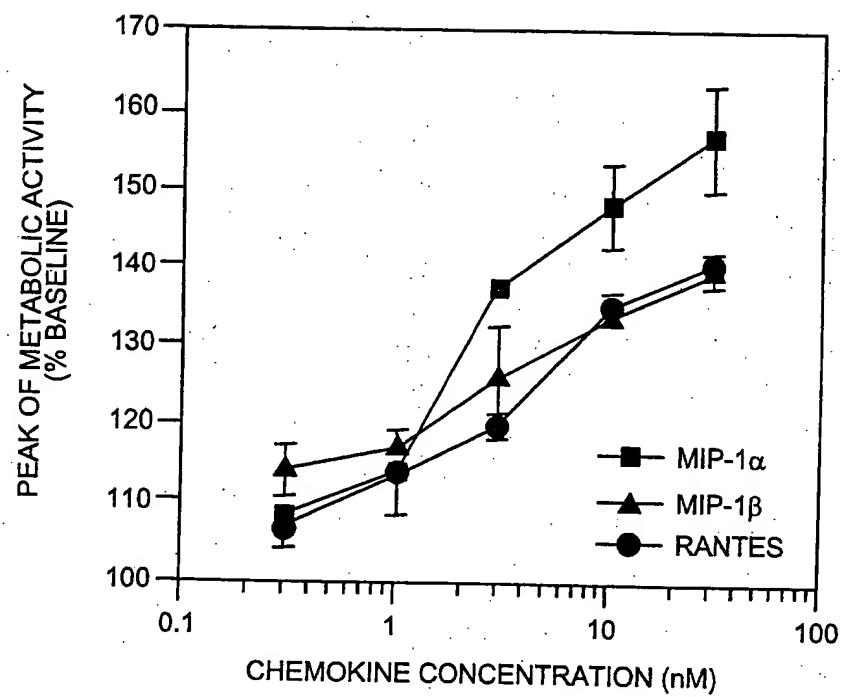
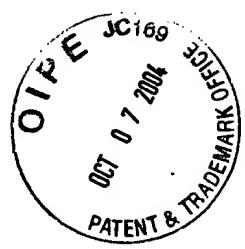


FIG. 4C



14/20

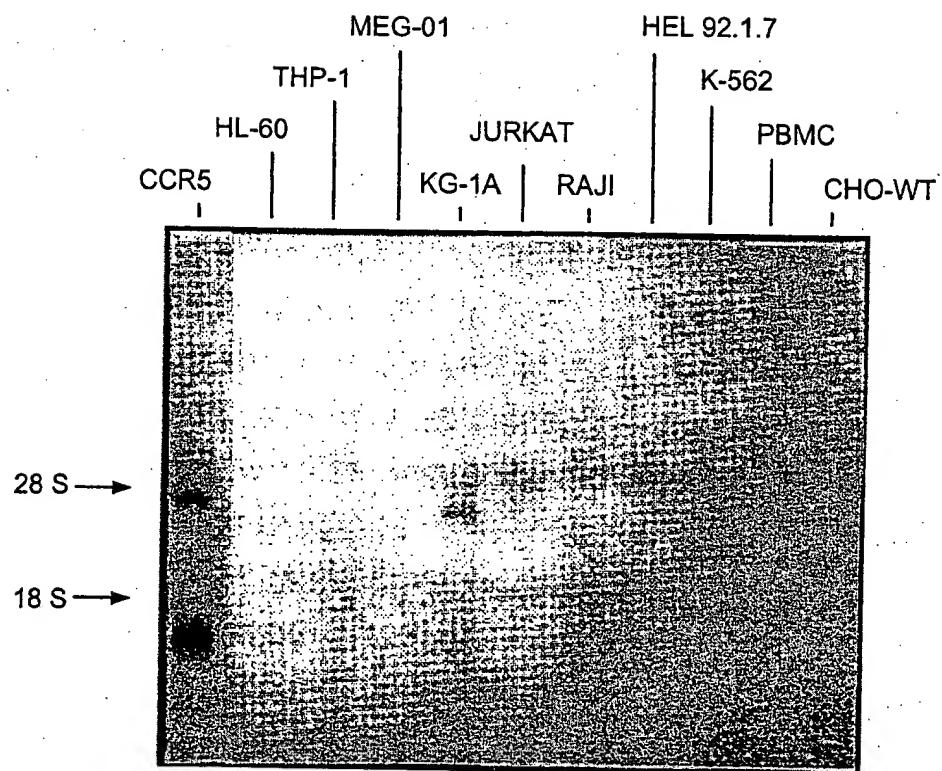


FIG. 5

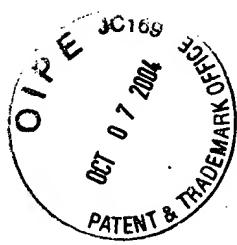
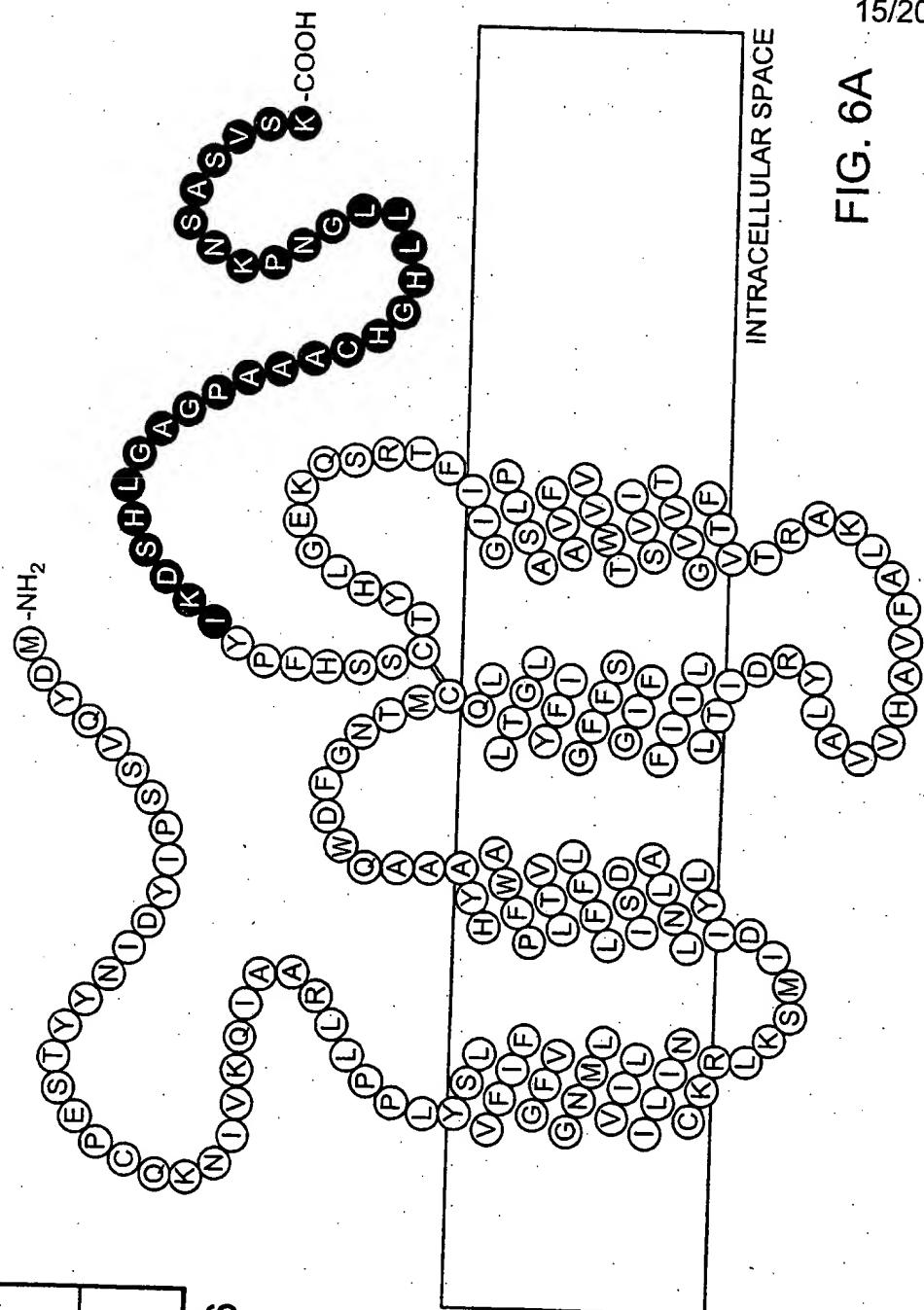
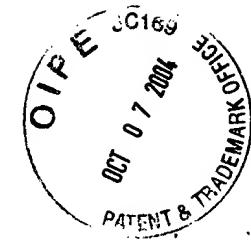


FIG. 6A
FIG. 6B

FIG. 6



15/20
FIG. 6A



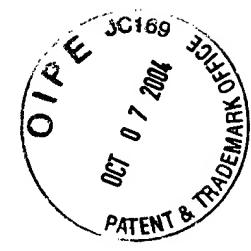
16/20

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Δccrs F P Y

deletion

CCRS L L V M V I C Y S G I L K T L L R C R N E K K R
CTGCTTGTCAATGGTCATCTGCTACTCGGAAATCCTAAAAACTCTGCTTGGTCTGGAAATGAGAACAGAGG
Δccrs A A C H G H L L G N P K N S A S V S K *

FIG. 6B



17/20

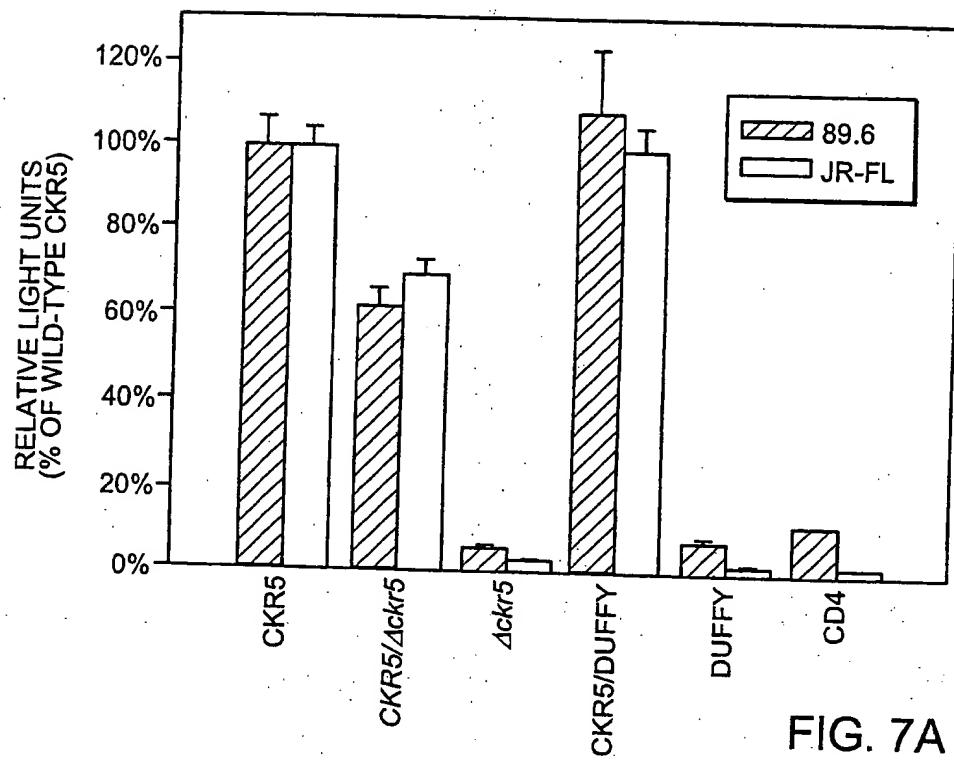


FIG. 7A

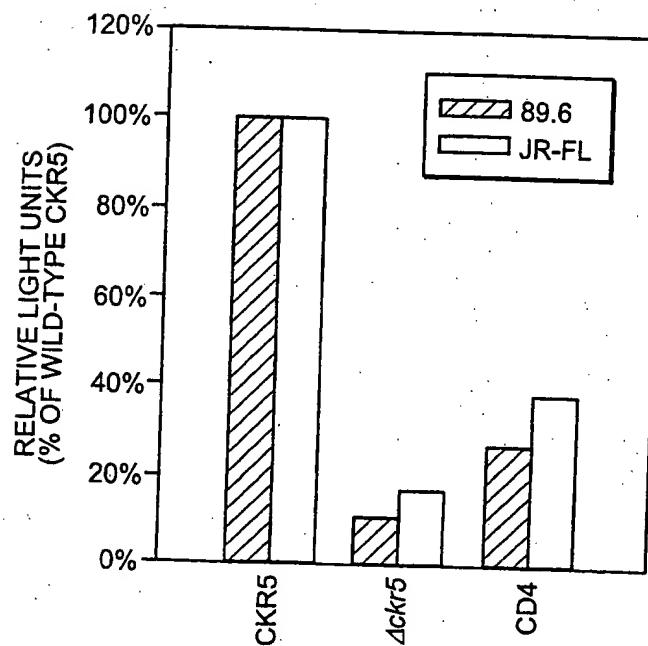
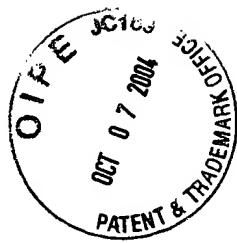


FIG. 7B



18/20

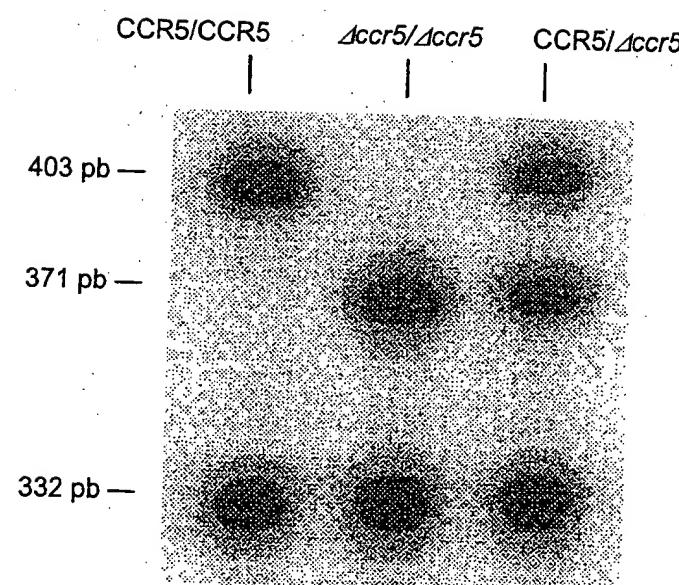
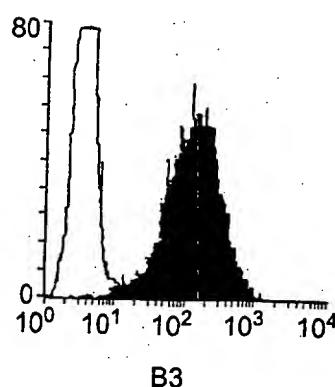
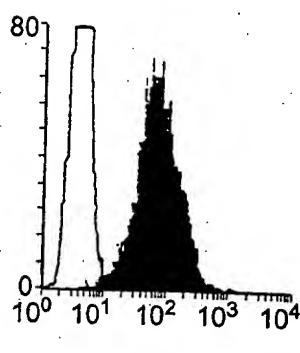
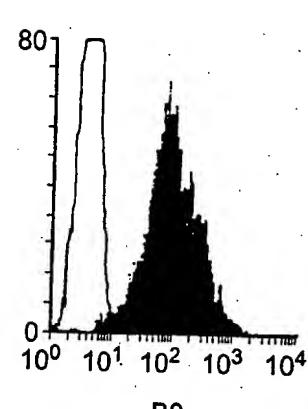
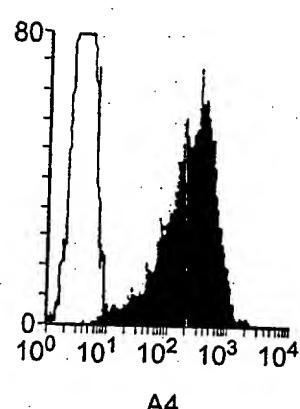
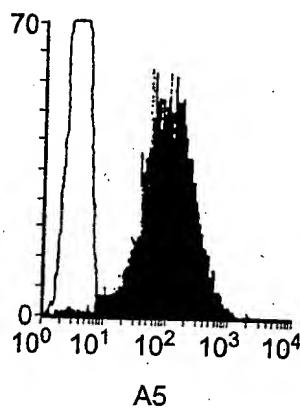
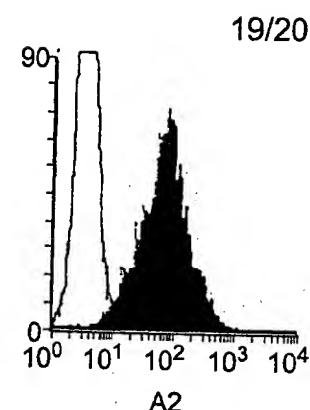
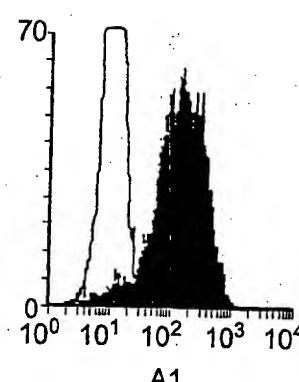
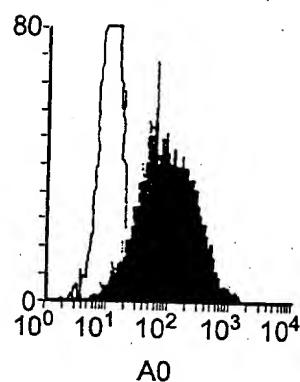
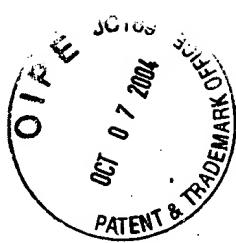
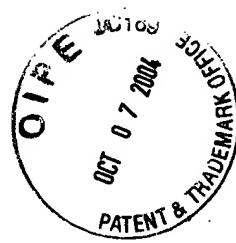


FIG. 8





20/20

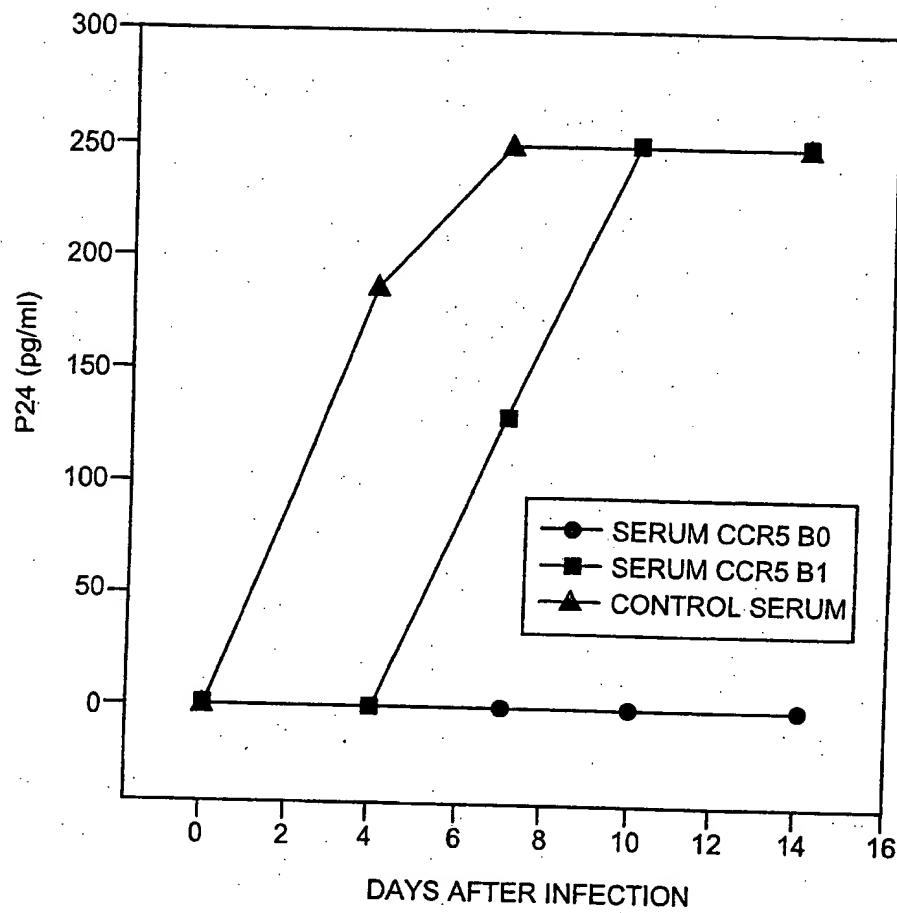


FIG. 10

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